



SEQUENCE LISTING

<110> Pizza, Mariagrazia
Bartoloni, Antonella

<120> IMMUNOLOGICALLY ACTIVE POLYPEPTIDES WITH ALTERED TOXICITY USEFUL FOR THE
PREPARATION OF AN ANTIPERTUSSIS VACCINE

<130> 002441.00076

<150> US 08/261,668

<151> 1994-06-17

<150> US 08/012,243

<151> 1993-02-01

<150> US 07/265,742

<151> 1988-11-01

<150> ITALY 22481 A/87

<151> 1987-11-02

<160> 30

<170> PatentIn version 3.1

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<223> Primer used to modify the S1 gene to encode an aspartic acid and
glycine in place of tyrosine and arginine at amino acid residues
8 and 9, respectively

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gtcatagccg tctacggt

18

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Page 2

aspartic acid at amino acid residue 109

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